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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,439	08/27/2003	Uma Arun	GP-303940 (2760/126)	5178

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EXAMINER
LENNOX, NATALIE

ART UNIT	PAPER NUMBER
2626	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 January 2008*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.
  4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-25* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  a)☐ All   b)☐ Some * c)☐ None of:
    1.☐ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
  Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
  Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   In view of the appeal brief filed on January 28, 2008, PROSECUTION IS

HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of

the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a

reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31

followed by an appeal brief under 37 CFR 41.37. The previously paid notice of

appeal fee and appeal brief fee can be applied to the new appeal. If, however,

the appeal fees set forth in 37 CFR 41.20 have been increased since they were

previously paid, then appellant must pay the difference between the increased

fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening

prosecution by signing below:

/Richemond Dorvil/

Supervisory Patent Examiner, Art Unit 2626.

Response to Arguments

2.   Applicant's arguments with respect to claims 1, 4, 6, 7, 8, 13, 14, 15, and

20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3.   The text of those sections of Title 35, U.S. Code not included in this action

can be found in a prior Office action.

4.   Claims 1-5, 8-12, and 15-19 are rejected under 35 U.S.C. 103(a) as being

unpatentable over French-St. George et al. (US Patent 6,012,030) in view of

Pickering (US Patent 6,882,973).

As per claims 1, 8 and 15, French-St. George et al. teach a method,

computer readable medium, and system for speech recognition that adjusts to

premature enunciator commands, comprising:

activating the speech recognition system (Col. 9, lines 12-14, when

speech recognition is enabled, the input mode is checked to determine whether

the speech recognition is on);

receiving speech input from a user before the system is ready to receive

speech input (as shown in Fig. 10 and described in Col. 10, lines 57-60, Fig. 10

sets out an example of an error recovery route for a time out failure because

input was received to late or too early.); and

determining that the user has spoken prematurely (Fig. 10 shows the

feature of "SPOKE TOO SOON" when the user's input is received before the

listening period, also the fact that the user "spoke too soon" after the query

"spoke too late" determines the user as a premature enunciator).

However, French-St. George et al. does not specifically mention

adjusting the system after determining that the user has spoken

prematurely to allow for earlier detection of user speech input.

Conversely, Pickering teaches adjusting the system after determining that

the user has spoken prematurely to allow for earlier detection of user speech

input (steps 420, 430, 440, and 465 of Fig. 2, also Col. 7, lines 17-35. Step 440

determines that the user spoke prematurely and in step 465 the user input is

detected (recognized), this detection being earlier than if received after the

prompt was completed.).

It would have been obvious to one having ordinary skill in the art at the

time the invention was made to have used the feature of adjusting the system

after determining that the user has spoken prematurely to allow for earlier

detection of user speech input as taught by Pickering for French-St. George's

method because Pickering provides a voice processing system that uses speech

recognition and allows barge-in. Pickering waits for the recognition result to be

returned before interrupting the outgoing prompt in order to prevent triggering the

termination of the prompt in circumstances where this was not actually the

intention of the caller (Col. 1, lines 6-8, and Col. 2, lines 36-45 and lines 51-54).

As per claims 2, 9, and 16, French-St. George et al. in view of Pickering,

teach the method, computer readable medium and system for speech recognition

according to claims 1,8, and 15, wherein the speech recognition system is

activated selectively by the user (French-St. George's Col. 6, lines 1-12, mobile

telephone unit comprises body, display screen, touch sensitive buttons,

conventional keypad, and a speaker associated with the speech interface to providing speech prompts for the various modes of interaction which may be selected by a user. Also in Col. 6, lines 24-26, for example the user may pick up the mobile phone, thus activating the unit, and turning on all default input/output modalities.).

As per claims 3, 10, and 17, French-St. George et al. in view of Pickering teach the method, computer readable medium and system for speech recognition according to claims 1, 8, and 15, wherein the activation of the speech recognition system is followed by informing the user that the system is ready to receive input and a listening period wherein the speech recognition system is able to receive speech input (French-St. George's Col. 1, lines 25-30, speech interface prompts the user when to speak by providing a speech prompt. After the prompt, a speech recognizer is turned on for a limited time window, during which time the user may respond.).

As per claim 4, French-St. George et al. in view of Pickering teach the method for speech recognition according to claim 1, further comprising the speech recognition system providing a prompt indicating that the system is ready to receive speech input, receiving the user speech input before the system has started a first listening period that begins after a delay following the prompt, and thereafter providing a subsequent prompt and starting a subsequent listening period at an earlier time relative to its prompt. (French-St. George's Col. 7, lines

56-58, Fig. 10 shows the feature of "SPOKE TOO SOON" when user's input is received before the listening period, which begins "AFTER the prompt;" this would be the first listening period. For the second listening period, French-St. George's Fig. 10 shows repeating the prompts when no speech was recognized, such as indicating the user to "repeat the request AFTER the Prompt" when the system determined the user to have spoken to soon.

However, French-St. George's does not specifically mention starting a subsequent listening period at an earlier time relative to its prompt.

Conversely, Pickering teaches starting a subsequent listening period at an earlier time relative to its prompt (steps 400, 420, 430, 440, and 465 of Fig. 2, also Col. 7, lines 17-35. Step 440 determines that the user spoke prematurely and in step 465 the user input is detected (recognized), this detection being earlier than if received after the prompt was completed.).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of starting a subsequent listening period at an earlier time relative to its prompt as taught by Pickering for French-St. George's method because Pickering provides a voice processing system that uses speech recognition and allows barge-in. Pickering waits for the recognition result to be returned before interrupting the outgoing prompt in order to prevent triggering the termination of the prompt in circumstances where this was not actually the intention of the caller (Col. 1, lines 6-8, and Col. 2, lines 36-45 and lines 51-54).

As per claims 11 and 18, French-St. George et al. in view of Pickering teach the computer readable medium and system for speech recognition according to claims 8 and 15, further comprising the speech recognition system to start a listening period at an earlier predetermined time interval (Pickering teaches starting a subsequent listening period at an earlier time relative to its prompt (steps 400, 420, 430, 440, and 465 of Fig. 2, also Col. 7, lines 17-35. Step 440 determines that the user spoke prematurely and in step 465 the user input is detected (recognized), this detection being earlier than if received after the prompt was completed.).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of start a listening period at an earlier predetermined time interval as taught by Pickering for French-St. George's method because Pickering provides a voice processing system that uses speech recognition and allows barge-in. Pickering waits for the recognition result to be returned before interrupting the outgoing prompt in order to prevent triggering the termination of the prompt in circumstances where this was not actually the intention of the caller (Col. 1, lines 6-8, and Col. 2, lines 36-45 and lines 51-54).

As per claims 5, 12, and 19, French-St. George et al. in view of Pickering teach a method, computer readable medium and system for speech recognition according to claims 4, 11, and 18, wherein the earlier listening period begins 50 to 100 ms before the speech recognition system informs the user of its readiness

to receive input (It would have been obvious to one having ordinary skill in the art at the time the invention was made to make a decision choice for an appropriate time frame for the earlier listening period).

5.   Claims 6, 7, 13, 14, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over French-St. George et al. (US Patent 6,012,030) in view of Pickering (US Patent 6,882,973) as applied to claims 1, 8, and 15 above, and further in view of Pi et al. (US 2003/0158732).

As per claims 6, 13, and 20, French-St. George et al. in view of Pickering teach a method, computer readable medium and system for speech recognition according to claims 1, 8, and 15, but do not disclose the speech recognition system filtering sound overlays from user commands.

However, Pi et al. teaches the speech recognition system filtering sound overlays from user command (subtract prompt echo spectrum 520 from Fig. 5 and paragraph [0042]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of the speech recognition system filtering sound overlays from user command as taught by Pi et al. for French-St. George et al.'s method, computer readable medium and system, as modified by Pickering, because using traditional adaptive filtering methods to remove near-end prompt echo may significantly degrade the performance of automatic speech recognition engines used in interactive voice response (IVR) systems (paragraph [0006], more specifically lines 11-14).

As per claims 7 and 14, French-St. George et al. in view of Pickering and in further view of Pi et al. teach the method and computer readable medium according to claims 6 and 8. French-St. George does not, but Pi et al. does teach further comprising processing filtered speech input through the speech recognition system (Pi et al.'s subtract prompt echo spectrum 520 (filtering speech input) from Fig. 5 and paragraph [0042], more specifically lines 5-7).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of processing filtered speech input through the speech recognition system as taught by Pi et al. for French-St. George et al.'s method, computer readable medium and system, as modified by Pickering, because using traditional adaptive filtering methods to remove near-end prompt echo may significantly degrade the performance of automatic speech recognition engines used in interactive voice response (IVR) systems (paragraph [0006], more specifically lines 11-14).

6.   Claims 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over French-St. George et al. (US Patent 6,012,030) in view of Pickering (US Patent 6,882,973), and further in view of Pi et al. (US 2003/0158732).

As per claim 21, French-St. George et al. teach a method of using a speech recognition system to adjust to commands of premature enunciators, the method comprising:

(a) activating a speech recognition system (Col. 6, lines 24-31);

(b) indicating to the user that the system is ready to receive speech input (Col. 7, lines 56-58);

(c) listening for speech input after a predetermined time delay (Fig. 10's "SPOKE TOO LATE" and "SPOKE TOO SOON" modules indicate that there is a short time delay for inputting speech after the prompt.);

(d) recognizing that the user has spoken before the system was ready to receive the speech input (Fig. 10's "SPOKE TOO SOON"); and thereafter

(e) indicating to the user via a prompt that the system is again ready to receive speech input (Fig. 10's "SPOKE TOO SOON" prompts the user to "repeat the request after the prompt"); and

(g) receiving the speech input (Fig. 7 demonstrates that after the system has determined that the speech input was not valid, if the system has not timed out, it returns to receiving the input).

However, French-St. George et al. does not specifically mention the method comprising:

(f) starting a listening period before the prompt is complete;

(h) filtering the received speech input to remove noise residue due to the prompt.

Conversely, Pickering teaches starting a listening period before the prompt is complete (Paragraph [0083], "activation signal may be asserted, with appropriate coding, whenever a change in the activation of speech recognition is desired"). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of starting a listening

period before the prompt is completed as taught by Pickering for French-St.

George's method because Pickering's signal may be changed (adjusted) to start

at an earlier time interval in order to provide for a better recognition.

Further, French-St. George in view of Pickering, do not specifically

mention the method comprising:

(h) filtering the received speech input to remove noise residue due to the

prompt.

However, Pi teaches filtering the received speech input to remove noise

residue due to the prompt (Pi et al.'s subtract prompt echo spectrum 520 (filtering

speech input) from Fig. 5 and paragraph [0042]).

It would have been obvious to one having ordinary skill in the art at the

time the invention was made to have used the feature of filtering the received

speech input to remove noise residue due to the prompt as taught by Pi et al. for

French-St. George et al.'s method, computer readable medium and system, as

modified by Pickering, because using traditional adaptive filtering methods to

remove near-end prompt echo may significantly degrade the performance of

automatic speech recognition engines used in interactive voice response (IVR)

systems (paragraph [0006], more specifically lines 11-14).

As per claim 22, French-St. George et al. in view of Pickering and Pi teach

the method of claim 21, wherein the predetermined time delay comprises a

temporal pause occurring between indicating that the system is ready to receive

speech input and listening for user speech input (In French-St. George's Fig. 10,

"SPOKE TOO LATE" and "SPOKE TOO SOON" modules indicate that there is a short time delay for inputting speech after the prompt, also Col. 2, lines 43-47).

As per claim 23, French-St. George et al. in view of Pickering and Pi teach the method of claim 21, wherein the starting step (f) begins 50- 100ms before the prompt is complete (It would have been obvious to one having ordinary skill in the art at the time the invention was made to make a decision choice for an appropriate time frame for the earlier listening period).

As per claim 24, French-St. George et al. in view of Pickering and Pi teach the method of claim 21, further comprising carrying out a plurality of iterations of steps (a) through (d) prior to steps (e) through (h) (French-St. George's Fig. 10 illustrate that the steps of prompting and re- prompting may occur up to 3 times).

As per claim 25, French-St. George et al. in view of Pickering and Pi teach the method of claim 21, further including determining whether a user has exceeded an error count associated with the plurality of iterations of steps (a) through (d) (French-St. George's Fig. 10 illustrate that the steps of prompting and re-prompting may occur up to 3 times).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATALIE LENNOX whose telephone number

is (571)270-1649. The examiner can normally be reached on Monday to Friday

9:30 am - 7 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Richemond Dorvil can be reached on (571)272-7602.

The fax phone number for the organization where this application or proceeding

is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from

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free). If you would like assistance from a USPTO Customer Service

Representative or access to the automated information system, call 800-786-

9199 (IN USA OR CANADA) or 571-272-1000.

NL   04/21/2008
/Richemond Dorvil/
Supervisory Patent Examiner, Art Unit 2626